

REMARKS

Claims 1, 2, 4-6, 8-10 and 12 are pending in this application.

Rejection of Claim under 35 USC § 103(a)

Claims 1, 2, 5, 6, 9, 10 are rejected under 35 USC § 103(a), as being unpatentable over Igarashi et al. (U.S. Patent No. 6,236,848) in view of Takagi (U.S. Patent No. 6,226,504) further in view of Zhang (U.S. Patent No. 6,285,863).

The present claimed invention describes a method for automatically controlling the gain in a radiofrequency signal reception device. The radiofrequency signal reception device includes at least one first low-noise amplification stage, placed following a reception antenna, and at least one variable-gain device, placed in the reception facility. The signal received by the antenna is first neutralized. Adjustments are made to the gain, during the neutralization of the received signal, until a predetermined noise level is obtained at the end of the reception facility. During the signal reception, the thermal noise power is extracted at the end of the reception facility and adjustment of the gain until a predetermined noise level is obtained. Independent claims 1, 5 and 9 contain limitations similar to those discussed above.

The present claimed invention provides a first and second automatic gain control. The first automatic gain control is performed statically when the on/off binary signal neutralizes the first amplification stage 21. The second automatic gain control is performed dynamically during the reception of data. This second automatic gain control makes it possible to generate a complementary command so as to compensate for the slow drifting of the gain due to, among other things, temperature variations.

The method of the present invention is the combination of the gain control performed statically within a neutralized first amplification stage and the gain control dynamically performed during the reception of the data. "The combination of the two

makes it possible to have continuous control of the gain of the reception facility" (page 6, lines 26-27).

Igarashi et al. describe a receiver circuit providing high-gain characteristics. The receiver comprises a variable gain amplifier for amplifying a received signal with a variable gain. The Examiner suggests that Igarashi et al teach a variable-gain device placed in the reception facility. The variable gain amplifier 114 is controlled by a signal that is a function of the intensity of the received signal. However, Igarashi et al. are not concerned with adjusting the gain of the received signal before signal reception. No preliminary gain control is performed. Therefore Igarashi et al. neither disclose nor suggest the "adjustment of the gain during the neutralization of the signal received until a predetermined noise level is obtained at the end of the reception facility wherein, during signal reception...adjustment of the gain [is preformed] until a predetermined noise level is obtained" as in the present claims invention.

Furthermore, Igarashi et al. neither disclose nor suggest the "neutralization of the signal received by the antenna" as claimed in the present claimed invention. Additionally, Igarashi et al. neither disclose nor suggest the "extraction of the thermal noise power at the end of the reception facility" as claimed in the present claimed invention.

Takagi describes a receiving apparatus including an amplifier for gain-variably amplifying a signal. The gain of the second amplifier means are set based on the detection of the output level of the second amplifier means. Takagi, similarly to Igarashi et al., neither disclose nor suggest the "adjustment of the gain during the neutralization of the signal received until a predetermined noise level is obtained at the end of the reception facility wherein, **during signal reception...adjustment of the gain [is preformed]** until a predetermined noise level is obtained" as in the present claims invention.

Additionally, the Examiner suggests that Takagi discloses a neutralization method of the signal received by the antenna. In the present claimed invention "the means of neutralization are relatively easily implemented supply switching means. When the first

amplification stage 21 is not supplied, the remainder of the reception facility now transmits only the noise related to the various elements making up said facility" (Page 4, lines 9-12). However, Takagi alternatively discloses the use of an amplifier or attenuator (see col. 3, lines 14-24 and 53-67). Therefore, Takagi neither discloses nor suggests the "neutralization of the signal received by the antenna" as claimed in the present claimed invention.

Zhang discloses an AGC system. The AGC system comprises a control system with an open control loop system and a closed loop control system. The open control loop system senses the power level of an input signal and pre-processes the input signal, so that the closed loop control system can operate in a range that is optimal for its performance.

The Examiner suggests that Zhang discloses during signal reception, the extraction of the noise power at the end of the reception facility and adjustment of the gain until a predetermined noise level is obtained. Zhang provides a two steps control system, the first step pre-processing the signal so that the second step can optimally operate. However, the present invention provides a two step system wherein the first step **extracts the noise power and restores it to a first predetermined level** and the second step dynamically performs automatic gain control to make an adjustment **in view** of the measurement of the thermal noise at the end of the reception facility. Though Zhang discloses an open control loop system which senses the power level of an input signal, Zhang neither discloses nor suggests "adjustment of the gain **during the neutralization of the signal received**" until a predetermined noise level is obtained at the end of the reception facility" as claimed in claim 1 of the present invention. Therefore, Zhang, similarly to Igarashi et al and Takagi, neither discloses nor suggests the two part system of the present invention wherein an "adjustment of the gain [is preformed] **during the neutralization of the signal received** until a predetermined noise level is obtained at the end of the reception facility wherein, **during signal reception...adjustment of the gain [is preformed]** until a predetermined noise level is obtained" as in the present claimed invention.

Furthermore, Zhang discloses the amplification or attenuation of a signal different (WCDMA) from that of the reduction process of the noise level of the present invention (CDMA) and the systems of Igarashi et al (CDMA) and Takagi (RF). Therefore, it is respectfully submitted that there is no reason or motivation to combine the systems of Zhang, Igarashi et al. and Takagi.

However, even if one were to combine the system of Zhang with the systems of Igarashi et al. and Takagi, the combined system, similarly to the individual respective systems, would neither disclose nor suggest the two part system of the present invention wherein an “adjustment of the gain [is preformed] **during the neutralization of the signal received** until a predetermined noise level is obtained at the end of the reception facility wherein, **during signal reception...**adjustment of the gain [is preformed] until a predetermined noise level is obtained”.

As claims 2, 6 and 10 are dependant on independent claims 1, 5 and 9 it is respectfully submitted that they are allowable for the same reasons as discussed above in reference to independent claims 1, 5 and 9.

Claims 4, 8 and 12 were indicated as allowable if rewritten in independent form including the limitations of the base and any intervening claims. In view of the above remarks, it is respectfully submitted that all claims of the application are in condition for allowance.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

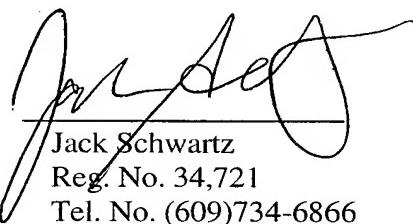
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No fee is believed due. However, if a fee is due, please charge the fee to Deposit
Account 07-0832.

Respectfully submitted,

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